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ABSTRACT

This study explores black and ethnic studies programs as a possible means of creating a pool of motivated black students to draw upon for recruitment to medical and dental schools and as an alternative to the traditional liberal arts program. Chapter I discusses the crisis in the health services, the shortage of black doctors, the lack of medical care available to the poor, and the discriminatory admission policies of dental and medical schools. Chapter II examines the relevance of various admission requirements, state licensing procedures, and the validity of aptitude tests as predictors of success in medical and dental schools. Recent changes in these policies are also discussed. Chapter III assays the influence on admissions policies of the traditional medical and dental schools models and the conventional breadth requirement. Chapter IV discusses black studies programs as a means for motivating study and service in the health professions, the relevance of behavioral science courses to premedical and predental education of practitioners who must deal with social and psychological aspects of health, and multitrack programs for training health service personnel. A summary of the study and recommendations are presented in Chapter V, and the study's methodology is described in Chapter VI. (AF)

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ALGO D. HENDERSON
NATALIE B. GUMAS

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CENTER FOR RESEARCH AND DEVELOPMENT IN HIGHER EDUCATION
UNIVERSITY OF CALIFORNIA, BERKELEY

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Algo D. Henderson
Natalie B. Gumas

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CHAPTER I

Crisis in the Health Services

The nation's health services face a critical shortage of medical and dental care generally and a large and growing disparity in the care received by affluent patients as compared with those from economically disadvantaged groups (Richmond, 1969; Norman, 1969). Medical and dental schools, meanwhile, are accepting about half the students qualified for entry (Lee, 1969) and have been admitting relatively few black and disadvantaged youth. They also have failed to teach their students, of whatever color, humanitarian values that place service to the patient above personal and financial gain. The medical and dental professions must widen their narrow doors and revise their concept of the ideal practitioner if the deficiencies in our health services are to be remedied.

In the last year or so, a significant number of schools of medicine and dentistry have liberalized their recruitment and admissions policies and are making an effort to find black students. This study investigated the traditional admissions requirements of medical and dental schools as they affect the recruitment of students

of racial minorities and examined black studies programs as a possible means of creating a pool of motivated students to draw upon for recruitment to medical or dental school. The analysis made in the study reported here may assist these schools in taking further steps to increase black enrollment. It is hoped that the report may also stimulate additional schools to do the same, for the majority of medical and dental institutions appear to be slow in changing discriminatory policies.

The report is equally addressed to black youth of college age and their counselors. Counselors are in a position to encourage more black students to seek careers in the health services. However, academic standards in medical and dental study must be maintained if the would-be practitioner is to meet state licensing requirements. Counselors should not overlook sequentially required subjects in preprofessional preparation and should advise selection of undergraduate courses that will develop the knowledge, skills, and attitudes compatible with later study and practice in the health fields.

At least four factors operate to undermine the adequacy of health services: (1) the shortage of physicians, dentists, and other health service personnel, especially those treating black people; (2) the shift in the interest of the doctors to specialized practice; (3) the tremendous increases in health service costs; and (4) the disproprotionate flow of federal funds to medical research rather than to training programs for medical practitioners.

As physicians have become more skilled in curing illness, they have also turned more and more to specialized practice. Specialists congregate in medical centers and engage in a referral system. They attract patients who are able to pay good fees for services. Thus, physicians have been enjoying increasingly higher incomes. Each turn of this cycle removes medical services farther from the persons who cannot pay fees and who, therefore, suffer from a greater number of health problems.

Existing insurance plans, unfortunately, have not insured a large proportion of the poor. The cost is beyond their reach. Consequently, insurance plans contribute to the disparity in health services because the insured group becomes able to demand a still larger share of the practitioner's time.

The reasons for uneven service may be disputed, but its existence cannot be denied. For example, in Baltimore, in 1940, the physicians were widely distributed throughout the city, with a ratio of one physician to fewer than 900 people. In 1969, some 300,000 people in the core of the city were served by only 100 physicians, or a ratio of 1 to 3,000 (Haynes and McGarvey, 1969). In the Watts area of Los Angeles, at the time of the riots in 1965, the ratio was found to be 1 to 4,200 (Melton, 1968). The national average for practicing physicians is five times better than this ratio.

Negro life expectancy in the United States is 64.1 years compared to 71 years for whites. Three times as many Negro babies as

white babies die in infancy. The rate of death of Negro mothers in childbirth is four times that of white mothers.

Washington (1969) compared the health problems of families with incomes of $2,000 or less with those of the highest income level. According to Washington, these poor families have four times as many heart conditions, six times as much mental and nervous disorders, six times as much arthritis and rheumatism, and eight times as many visual impairments as do those in the highest income brackets. Two facts are clear: (1) although white physicians and dentists treat black patients in hospitals and those from the middle and upper income groups, they do not practice in black communities nor do they treat any significant number of poor blacks; and (2) 85 percent of black physicians serve black patients primarily or wholly.

In spite of its tremendous progress in medical science, the United States ranks well below several nations of Europe in various health statistics. For example, it ranks fourteenth among selected countries on infant mortality rates (United Nations, 1969) and eighteenth on life expectancy for males compared with other industrial countries (Committee for National Health Insurance, 1969). World statistics on infective and parasitic diseases, such as tuberculosis, syphilis, and infectious hepatitis reveal that the U.S. death rate per 100,000 population for all ages is 8.2, compared for example to 5.5 for Canada, 7.7 for Israel, 4.2 for the Netherlands, and 6.0 for Norway (World Health Organization, 1970). These statistics

reflect the inadequate health coverage received by a rather large portion of our population, most probably the disadvantaged. Thus, as of 1970, the United States faces a strange paradox. Its medical knowledge has expanded tremendously and is the best in the world, and many medical insurance plans have been developing, but because of gross discrepancies in the availability of the health services, the health of certain classes of people has not been improved.

A second paradox has been identified by Philip R. Lee, chancellor of the University of California, San Francisco Medical Center, and former Assistant Secretary of Health and Scientific Affairs. This is the importation into the United States each year of large numbers of foreign and not always adequately trained physicians, because of a failure of our medical schools to admit qualified students from our own population. According to Lee (1969):

> Some have estimated that we are admitting only one-half of all the qualified applicants to medical school. Whether this is true or not, it certainly is true that there are twice as many students qualified for medicine as are admitted every year. What a tragic waste of human potential when the country cries for more physicians. When doctors are grossly overworked in almost every community in the country, when hundreds of communities and neighborhoods do not have a physician's services easily available, when medical care costs continue to rise at a rapid rate because demand far exceeds supply, and when we import thousands of graduates of foreign medical schools every year to fill the gap /p. 462/.

The problem for the nation is how to reorganize the system to deliver adequate health services. The entrepreneur system of fee

for service is no longer suitable for our complex society. One solution to this problem lies in a government-sponsored medical health plan which is available to all persons, no matter how low their income. However, any revised national plan of health services would require a considerable enlargement in the numbers of professional personnel. Since there are gross deficiencies in services for the disadvantaged segments of the population, so many of whom are blacks, the need for additional personnel underscores the need for medical and dental education for blacks and a way to motivate them to serve the most disadvantaged members of their race. Even if the health delivery system is not changed, the need for black professionals remains the same.

In the case of dentists, the proportion of black personnel has actually declined over the years. In 1930, black dentists constituted 3 percent of the total number; as of 1960, this percentage had declined to 2.7 /U.S. Bureau of the Census, 1960, pp. 9-10/. A possible explanation is that schools of dentistry, in emulation of the image of medical schools, have been drawing more strictly the criteria for admission that favored the white-Anglo-Saxon-Protestant portion of the population. As of 1965, among 14,800 students in the dental schools of the United States, only 2 percent were black. Most of them were in the two schools, Howard University and Meharry School of Dentistry, that serve largely black students (Applewhite, 1969). Among the "white" dental schools in 1967, only twenty-one

had black students, none had over four and most had only one (Henry, 1968). The ratio of black dentists to black population is 1 to 11,500 (Applewhite, 1969).

About 2 percent of all M.D. degrees awarded have been given to blacks (Association of American Medical Colleges, 1970). According to Melton (1968), as of 1960, the total black population in this country was 11 percent, but the percentage of practicing black physicians was only 2.2. The ratio of black physicians to black population was 1 to 3,745, a figure only one-fifth as good as the national ratio of physicians to population (1 to 779).

In 1969, the enrollment of blacks in medical school numbered 2.75 percent of the total (American Association of Medical Colleges, 1970). If the two predominantly black schools, Howard and Meharry, are excluded from the count, the percentage is reduced to less than 1 percent (0.9 percent). As recently as 1969, thirteen schools had no black enrollment (Crowley and Nicholson, 1969). However, the acceptance of blacks to the first-year class in medicine has shown a rise over the past two years.

The American Medical Association has made a welcome change in their attitude toward the supply of physicians and now joins with the Association of American Medical Colleges in advocating an increase in the supply. Sixteen new medical schools have recently been launched or planned for building in the near future; a number of older schools have been increasing the size of the first-year classes.

Increasing class size should not be viewed with the great concern hitherto shown by medical and dental schools. Henderson (1970), in a study of medical education costs, wrote, "...the real obstacle to increase in medical schools' size lies in faculty attitudes [p. 254]." The American Association of Dental Schools states that "more dentists are vitally needed now and there is no foreseeable trend to a diminished need [1969, p. 87]."

The attitude toward black and other minority applicants to medical and dental schools is changing, and more blacks are being admitted by some of the schools that heretofore have catered almost wholly to white students of comfortable socioeconomic status. Some medical schools have initiated or are supporting new programs to increase their enrollment of minority students. Jarecky (1969) described these new programs from data based on a survey conducted by the Association of American Medical Colleges. Some of these programs recruit and enroll promising minority students who have been refused admission to medical schools or who have had an inadequate undergraduate education. These programs prepare students for admission to medical schools by broadening their academic backgrounds and filling educational gaps. They range in time from one summer to one year and generally provide cost of living stipends as well as tuition grants. The programs are structured around small seminars or highly individualized instruction by faculty members and students of a medical school.

Some medical schools offer special scholarships for disadvantaged students as well as individualized counseling services. A problem common to all medical schools has been the lack of funds for providing special financial aid to poor minority group students.

One medical school selects ten students who have been rejected for the entering class and enrolls them in a special three-year medical science program which combines enrichment courses with regular basic science courses. Upon successful completion of this three-year program, the student is accepted into the third year medical school class.

Other medical schools attempt to encourage minority student interest in a medical career during the primary or secondary school years. The students experience direct acquaintance with the health professions by working in a laboratory, going on medical rounds, and participating in seminars. These programs also send university students to primary schools to discuss science topics with pupils who then visit the university and watch science demonstrations by faculty members.

All medical schools involved with the recruitment of minority students having deficient educational background stressed that they seek only students who will be able to deal effectively with the academic program once they have successfully completed supplementary or special preparation programs. As one chairman of a medical school admissions committee put it, "there's something unfair in putting a man in a situation where he's bound to fail."

Graduating greater numbers of physicians and dentists will not help to eliminate the disparity in health services available to the poor of medical and dental students enter the profession only to obtain high income and status, traditional goals held by many students. To the extent this is true, a shift in orientation is needed. There are promising signs, however, that many college students today reject the materialistic values they associate with their middle class parents. These students also question the value of competitiveness and acquisitiveness and are concerned with the consequences of scientific research to mankind. The movements toward black power, self-identity, and black self-governance reflect similar idealistic questioning among black students. In many instances, black and other racial minority college students have become active within their respective communities, studying the problems there and working toward amelioration of the conditions.

A new development in curriculum has captured the interest of black college students--the black (or ethnic) studies programs. These new programs reflect the rejection of the traditional academic curriculum, based on the Graeco-Roman, Western heritage, as irrelevant to the black experience. One articulated goal of black studies is the development of a strong ethnic and self-image through study of black cultural origins and history. Black students articulating the new values and ethics might be motivated to study medicine and dentistry with a view toward serving their communities. But medical and dental schools must change their traditional admissions policies to admit them.

The black studies curriculum, however, does not conform to the concepts of preprofessional education published by the Association of American Medical Colleges and the American Association of Dental Schools. Both assume a background of the traditional, Western liberal arts type. This study will discuss whether a black studies major as an alternative to the liberal arts program will facilitate or hinder the preparation of black students for a career in the health services and what, if any, adjustments in policies the professional schools should make to take account of this new development.

Chapter II, Admissions Requirements, discusses the relevance of various admissions requirements, state licensing procedures, and the validity of aptitude tests as predictors of success in medical and dental school. Also described are recent changes in policy and programs in medical and dental schools attempting to admit more minority students.

Chapter III, Educating the Elite, assays the influence on admissions policies of the traditional medical and dental school models and the conventional breadth requirement. Chapter IV, Educating for Service, discusses black studies programs as means for motivating study and service in the health professions, the relevance of behavioral science courses to premedical and predental education of practitioners who must deal with social and psychological aspects of health, and multi-track programs for training health service personnel. Chapter V summarizes the study's observations and offers recommendations. Methodology is described in Chapter VI.

CHAPTER II

Admissions Requirements

Medical and dental schools in the United States are members of the Association of American Medical Colleges (AAMC) and the American Association of Dental Schools (AADS), respectively. These associations (the AADS in cooperation with the Council on Dental Education of the American Dental Association) publish yearly manuals in which medical and dental schools, following a standard format, describe their requirements. Each school also provides a brief statement about its program, aids to admission, and certain data descriptive of the previous year's entering class.

MEDICAL AND DENTAL SCHOOL REQUIREMENTS

The analysis of admissions requirements presented here is based on a randomly selected sample of eleven medical schools described in the AAMC manual and eleven dental schools from the AADS booklet. These schools were also sent a short questionnaire (Appendixes 3 and 4). One of the selected medical schools is so new that its first class had not been admitted, and its requirements were not listed. A spot check of other schools revealed that the published requirements

of all American medical schools are highly uniform and, therefore, the analysis of admissions requirements can be presumed to be generalizable to all American medical schools. A similiar check of other dental schools in the booklet confirmed that the sample is representative of the whole group. (The chapter on methodology describes in detail how the sample was selected.)

Both medical and dental schools require substantial undergraduate education of a traditional Western liberal arts character with emphasis on the natural sciences. In medical schools and dental schools, applicants with four years or more of college have the best chance of being admitted, and in medical schools this amount of education is virtually required. Applicants with only two years of college will not be admitted to medical school and they stand only a 10 percent chance of admission to a dental school. To stand this chance in dentistry, the applicant is limited in the schools to which he can apply. It may be inferred that early entrance upon a professional career is not encouraged. It seems probable also that some well-qualified youth are discouraged from applying because of the length and cost of the premedical education.

All medical and dental schools require their applicants to take the standard aptitude tests available (Medical College Aptitude Test and Dental Aptitude Test, respectively). Scores from these tests appear to be an important factor in screening applicants.

Both medical and dental schools have specific requirements for preprofessional courses in chemistry, biology, physics, and English.

They are virtually the same. They constitute approximately one-third of the credits that liberal arts colleges require for the four-year degree. Both types of schools recommend the social sciences with some frequency, but neither mentions specifically the behavioral sciences.

Both types of schools encourage the prospective applicants to acquire breadth of education. To the extent this is true, the point of view is the same as that of Severinghouse, Carman, and Cadbury, authors of a model for premedical education (to be discussed later). The dental schools conform less to the model than do the medical schools. Nevertheless, both types of schools continue to emphasize a foundation in the sciences, especially the biological sciences. Students correctly perceive that medical and dental schools prefer students with substantial training and a good record in science. A large proportion of medical students were undergraduate science majors.

All of the medical schools require an interview, but most of the dental schools do not. Data were not given about the requirements for reference letters. The offical statements do not reveal what uses are made of the results of interviews or of contacting references. However, selective factors that were mentioned frequently include scholarship, personality, and character. It may be inferred that impressions concerning scholarship are derived in part from interviews and references, especially the references from the

undergraduate colleges. Impressions about personality and character, doubtless, come principally from interviews and references.

There is almost complete uniformity among medical schools concerning their admissions requirements, and the same is true among schools of dentistry. Excepting the length of the preprofessional education, there is a high degree of similarity in the stated requirements of medical and dental schools. For a detailed breakdown of admissions requirements, see Appendixes 1 and 2.

STATE LICENSING REQUIREMENTS THAT CONSTRICT ADMISSIONS REQUIREMENTS

Each state, through laws and through regulations set by the professional licensing boards, prescribes conditions for licensing in the professions. The prescriptions among the states are reasonably standardized although they vary in details. For example, admissions requirements to medical and dental schools might vary from state to state in the number of years of preprofessional college study required and in the degree of specificity in stipulating preprofessional courses.

The laws and regulations of two states will illustrate the nature and scope of the legal requirements. The vocational standards of the State of California require that each applicant for a physician's and surgeon's certificate shall have completed "a two-year resident course of college grade, or its equivalent, including the subjects of physics, chemistry, and biology, or their equivalent, before commencing the study of medicine /State of California, 1968,

p. 417." The Dental Practices Act of 1968 makes it mandatory that each applicant for admission to a dental school shall have completed "two full academic years (60 semester hours) of work in an accredited college of liberal arts and science," and the course must include "at least a year's credit in English, in biology, in physics, and in inorganic chemistry, and a half year's credit in organic chemistry /State of California, 1969, p. 427." The State of New York requires for both medicine and dentistry two years of college study toward a liberal arts degree which "shall include at least six semester hours each in English, physics, biology or zoology, and general chemistry, and three semester hours in organic chemistry /University of the State of New York, 1966a, p. 62; 1966b, p. 467."

Occasionally, stipulations about nonacademic qualifications are made by a state. For example, the Board of Dental Examiners in California (State of California, 1969) has a regulation as follows:

> The selection of students for admission to the dental school shall be based on estimates of their capacity for success in the study of dentistry as determined by evaluation of all available and significant information including information regarding their character, their knowledge, their educational history, the quality of their collegiate training, their health and their aptitude for and interest in the study of dentistry /p. 427.

Thus, both medical and dental schools are constricted in the minimal admissions requirements by the wording of the state laws or the regulations of the state licensing boards. The published requirements of the schools conform to this extent to the requirements of the state for becoming licensed.

To effect changes it is necessary to enact amendments to the laws or to the regulations. The state licensing boards are influential in securing changes in the laws and may revise the regulations, subject to conformance with the laws. The medical associations are influential with the boards and with the legislatures. Thus, the prescriptions may be changed, but the associations, usually conservative in such matters, have substantial control over the proposals for change and, therefore, any change which does occur will come very slowly.

CRITIQUE OF TESTS

The use of aptitude test scores of minority students as major criteria for admission to college as well as to medical and dental schools is being increasingly challenged. For example, John D. Black, a member of Stanford University's Counseling and Testing Center, stated, "For reasons that we do not fully understand, the College Board test scores are very poor predictors of performance for blacks /S.F. Chronicle, July 1, 1970, p. 27." This statement was made in explanation of the fact that black students entering Stanford University with lower than average scores on the College Board tests graduated with better grades than their class as a whole, despite the fact that Stanford offered no special tutorial programs.

Controversy still exists over the predictive value of the MCAT, and research studies report contradictory findings (Sanazaro and Hutchins, 1963). However, various studies (Bartlett, 1967;

Funkenstein, 1965; Gough et al., 1963; Fredericks and Mundy, 1968a, b; Fernández-Pabón, 1968) analyzing the relationship between MCAT and DAT scores and later academic achievement have questioned the reliability of these tests in predicting academic performance and success.

Bartlett (1967), in his study of 49 students admitted to the University of Rochester medical school despite unusually low MCAT scores on the verbal and science subtests, found that their medical school performances and later career choices showed no significant differences from the performances of other medical students.

Funkenstein (1965) analyzed the verbal aptitude MCAT scores of medical students at Harvard University medical school at the end of their first year and found no significant differences between those with grades in the top quarter and those whose grades were in the lowest fourth and concluded that aptitude tests are extremely poor predictors of success or failure in medical school. He also found that the low verbal aptitude test scores of students from lower socioeconomic backgrounds do not distinguish between students with high or low academic potential. He concluded that the use of test scores alone as a screening device is never justifiable and that other methods of appraising students, such as personal interviews, recommendations, and personal ratings, should be taken into consideration.

Gough and associates (1963) reviewed various studies on the MCAT and concluded that it appears to be a poor forecaster of

performance in school and completion of training. In a study of the predictive values of selection procedures used at the University of California medical school in San Francisco for fourteen classes from 1951 to 1964, Gough et al. correlated the overall GPA as well as grades in each year with the four scales of the MCAT, premedical GPA, premedical GPA in scientific subjects, premedical GPA during the last two terms of school, and admission interview ratings. The results of the study indicated that admissions procedures using these factors presented real problems in selection techniques. They hypothesized that the MCAT does not test the independence, self-initiative, and critical judgment demanded of the professional and that other tests measuring nonintellective factors, such as independent or divergent thinking, creativity, and motivation, might be more predictive of scholastic achievement and success in medical school.

Similar results have been found in studies of the DAT. The relationship between DAT scores, social class, and academic achievement of eighty-one male preclinical dental students was studied by Fredericks and Mundy (1968a), who found that social class was not a determinant of academic performance. In addition, they found no significant relationship between average grade in college, average science grade in college, the academic average and manual average scores of the DAT,and academic performance in the preclinical years of dental school (1968b).

Finally, a study by Fernández-Pabón (1968) of three graduating classes of dental students at the University of North Carolina concluded that a "high degree of variability" existed in relations between seventeen predictor variables, including thirteen scores of the DAT, and seven achievement variables which included total GPA as well as GPA in various subject areas. He also cited many studies of correlation between predictor and achievement variables which have produced inconsistent results; that is, in which the correlation values were generally at the lower end of the acceptable range and in which there was also great variability from year to year and school to school.

Since the predictive value of the MCAT and DAT tests in terms of performance and achievement in school has been questioned by various studies, such as those just described, different admissions criteria should be developed which would more realistically determine the potential academic aptitude and achievement of all students, especially those from the lower class and minority groups.

RECENT CHANGES

Some changes <u>are</u> occurring in medical and dental schools apparently attempting to admit more minority students. These were reflected in the responses of sample schools to questionnaires concerning admission of minority students. (Appendixes 3 and 4 contain copies of the questionnaires.)

Medical Schools

Ten of the sample medical schools responded. A majority of the schools (seven) replied negatively to the question,

> Have you revised your criteria for admission as described in the 1969-70 Manual on Medical School Admission Requirements published by the AAMC?

On the affirmative side, one indicated that any foreign language (including classical) will now fulfill the requirement. Presumably this could include Swahili. Another school's respondent said: "We now look more closely into motivation, perseverance and character--instead of putting the greatest (and almost exclusive) weight on academic preparation." The remaining school stated that the recommendations of the manual that relate to acceptance procedures are being observed, but this is probably true of many other schools.

The second item asked,

> Do you make any modifications of the criteria when considering black applicants?

Only two schools stated that they do not modify their criteria. A third school indicated that it is making efforts to increase minority representation but said nothing about changing its criteria for admission. A fourth school indicated that it admits minority applicants after the usual deadline. The remaining answers are so varied as to defy categorization but are extremely interesting as evidence of the sudden burst of effort by some schools to find ways to accommodate more minority students. One school takes into account the

recommendations of a committee on minority applicants. Two schools downgrade the reliance on the MCAT scores, and one of these does the same with the grade point average but the other school upgrades the GPA standard. One of ten schools now gives more weight to the interview. One other school has lowered the GPA minimum. The remaining institution now provides an opportunity for students to make up basic science deficiencies after admission. Thus, it might be concluded that half of the sample schools are being less strict than before in construing their requirements of academic achievement.

The third item inquired about the effect on admissions standards if criteria were modified. Five schools answered that the changes would not affect the standards, one replied that it was uncertain in what way there might be a change, and one said the changes would "facilitate the admission of students whose background is weak by older criteria." Only one school felt that it would lower standards.

With special reference to the admission of students who had majored in black (or ethnic) studies programs, the schools were asked,

> Assuming that the science and other minimal requirements were met, do you think that a student who had 'majored' in black studies would be admitted to your school?

Of six schools answering the question, three replied affirmatively and three were undecided (although two of these thought it unlikely that this major would be decisive).

The manner in which some medical colleges are adjusting their policies and programs to facilitate the admission of black and other minority students was described in Chapter I. To obtain current and more specific information about such adjustments, the questionnaire sent by the Center to the sample schools also asked about any recent changes in policy or programs related to increasing minority student representation.

Four schools had instituted remedial programs of either or both types: a summer period of study and/or research in advance of entering the school (three schools) or a remedial year before entrance (three schools). Four schools had introduced a more flexible time schedule so that some students might take five years instead of the usual four in medical school, but one school had discontinued this plan. In one case the two-track system (referring to differing lengths of time a student may take to complete his medical education) was several years old and, although not designed for minority students is now available to them. Two schools now sponsor activities designed to motivate potential students--one exposes students to examples of community health centers and the other arranges interviews with practicing physicians who are black. One school reported that it is carefully examining all applications instead of, as formerly, looking seriously only at those which indicated high academic achievement. Two institutions indicated that they were studying the problem of recruitment and adjustment, and one of these had appointed a special

committee on policies and resources for the purpose. Six schools reported that they are making special efforts to recruit minority students. One described a special recruitment committee, the membership of which includes three persons selected by the Black Students Union of the university, three by the Mexican-American Student Confederation, and three by the faculty senate of the medical school. The committee on admissions consults with this special committee when considering applications from minority applicants.

Since the cost of attending medical school is a barrier to many youth, the schools were asked,

> Do you have special funds with which to assist economically disadvantaged black students?

Four responded negatively. Two have limited funds, and two appear to have sufficient funds to meet the needs. These answers do not rule out the possibility that black students may be entitled to share in other scholarship or research grants.

The authors attempted to secure data that would reveal the trends in the recruitment and admission of black students, the proof of the pudding, so to speak. However, the earlier policy of not identifying the race of students in the records interfered with obtaining reliable results. For half of the sample, however, the data were clear and comparable. They showed a remarkable increase in numbers during the past three years, as follows:

Admissions of Black Applicants by Years

	Applied	Were accepted	Actually enrolled
For classes entering 1969-70	149	42	32
1968-69	61	12	10
1967-68	32	7	3

An analysis of these data by schools, however, reveals that only three schools contributed to the changes depicted in the table. These schools, plus one that supplied data for 1969-70 and for 1970-71, are the same ones that ranked high in establishing a flexible curricula or track system to adjust their policies and program. Two of these schools supplied information that enabled a comparison to be made of applications received in 1969-70 with those received in 1970-71. In one case the increase was 100 percent, and in the other 150 percent.

Although many medical schools appear to be sincere in their efforts to recruit more minority students, of 37,576 students enrolled in American medical schools in 1969-70, blacks numbered only 1,042 or 2.75 percent, no great improvement, for example, over the 1955-56 percentage of 2.66 (American Association of Medical Colleges, 1970, p. 9).

Dental Schools

Nine dental schools responded to substantially the same questions as those sent to medical schools. (Appendix 4 contains questionnaire.)

Item 1, which inquired if there had been any revisions in criteria for admission since publication of the 1970 admissions manual, was answered in the negative by eight of the schools. The ninth school had added a course each in psychology and embryology to the requirements.

The next item asked,

> Do you make any modifications of the criteria when considering black applicants?

This elicited five negative and four affirmative responses. Of the four positive responses, one school was minimizing the DAT score requirement, one school was adjusting the cutoff grade to a bare minimum and offering extra assistance to these applicants, one was taking greater account of the applicants' background in considering DAT scores and grades, and the fourth school was giving black applicants separate consideration aimed at determining their probable success in completing the dental school curriculum. The modifications in all four schools appear to remove the black applicant from arbitrary competition for a place in the entering class by judging his potential from evidence in addition to his grades and scores. As one school responded,

> We will continue to accept only qualified students. Their /blacks'/ grade-point averages and Dental Aptitude Test scores, however, may be lower than other qualified students who could have been selected.

With this possible type of exception, all schools feel that they are not lowering standards of admission.

Item 6 asked,

> Assuming that the science and other minimal requirements were met, do you think that a student who has 'majored' in Black Studies would be admitted to your school?

All nine responding schools answered this question affirmatively. Several qualified their answers by repeating that the other requirements should be met. One school stipulated that the major in black studies must be acceptable to the undergraduate college for the baccalaureate degree.

The answer of one director of admissions is interesting for its philosophical note. It reads:

> What dentistry needs is more students who major in something other than the usual chemistry and biology. If a major in black studies will help make the black student a more integrated person, so much the better. I would be inclined to look on a black studies major about the same as I would a psychology or sociology major.

Since a dental education is costly to the student, we asked each school if it had any special funds for the support of economically disadvantaged black students. Eight said they had not. One indicated it had. However, many schools have funds for scholarships and grants for which these students and all others may apply or compete.

Dental schools were asked for data that would reveal recent trends in admissions of black students. The data supplied were reasonably comparable. One school was unable to supply data about blacks beyond two years, but its enrollment of blacks has never

exceeded one per class. Hence, its inclusion in the summary does not distort the trend picture shown here.

Admissions of Black Applicants by Years

	Applied	Were accepted	Actually enrolled
For classes entering 1969-70	66	26*	8*
1968-69	23	15	13
1967-68	8	4	3

*One school reported that nine applications were still under consideration. If any, or all of them, are accepted, it would add to the trend of increasing numbers.

Evidently the trend favors the black applicants. During the past year, the number of applications increased from 23 to 66. When pending actions have been completed, the percentage increase for those accepted for admission will probably be 100 percent. The big jump in the numbers enrolling took place during the previous year--from three to thirteen students. However, these increases in numbers started from a very small base as recently as three years ago. In 1967-68, these nine dental schools in total had admitted only three black students.

The significant changes have, however, taken place in only four of the nine schools. More than half of the schools in the sample show such small increases as to suggest that no real changes in admissions policy and recruitment practices have taken place.

CHAPTER III

Educating the Elite

Despite recent studies casting doubt on the validity of several standard admission tests, and despite attempts by some medical and dental schools to liberalize their requirements and professional goals, most medical and dental schools have been slow to embrace change. In fact, the high degree of uniformity in admissions requirements among medical and dental schools suggests that certain models for preprofessional education have exerted pervasive influence in shaping professional school policy and practice. It is not surprising to find that the largest issue in these models lies in the breadth requirement imposed or expected by medical and dental schools.

MODELS OF ADMISSIONS REQUIREMENTS

Medical Schools

The Association of American Medical Colleges has twice sponsored comprehensive studies of preprofessional education. The two reports by Severinghaus, Carman, and Cadbury (1953, 1961) contain recommendations concerning requirements for admission to medical schools. A

review of literature shows that these reports are the most thorough treatments that have been made of premedical programs. The language used by many medical schools in describing their present admissions requirements and selection factors suggests that the reports have had considerable impact upon the policies and practices of the schools. Both editions of the report (hereinafter called the AAMC report) will be used as a model for comparison with the practices of the medical schools and for the further exploration of the subject of premedical requirements.

The most influential man in changing the course of medical education in the United States was Abraham Flexner. Among his recommendations in 1910 was the one that medical education should be based on the sciences. The great progress made in medical discoveries during the past half century has come primarily from research in the basic sciences. One result of this emphasis, however, has been a skewing of the curriculum within the medical school, and also in premedical programs, in favor of the natural sciences.

The reports, initiated in 1952, were made because of the prevailing belief that the applicants to medical schools were too narrowly educated. Up to that time, applicants were admitted after only three years of undergraduate experience concentrated in the sciences, notably the biological sciences. According to this view, applicants had insufficient grounding in the humanities to become broadly educated and failed to integrate the liberal concepts and materials

studied in the humanities courses. These deficiencies were thought to be the result of pressures from the medical schools on the student to study science and, as mentioned above, of policies that permitted transfer to medical school before the student had had the integrative experiences of the final years in the liberal arts college.

The study was conducted principally in 115 liberal arts colleges selected from those in which fifteen or more students had taken the Medical College Admission Test in three examinations given in 1948 and 1949. It included an examination of the courses in the liberal arts, with special emphasis on the humanities, taken by students as preparation for admission to medical schools. The report emphasized the need for breadth of liberal education, a longer period of premedical study, and flexibility in the requirements for admission to medical school.

The 1961 survey of the AAMC report pointed to the fact that the study of the sciences dominated the premedical preparation of the students, and from this it was inferred that medical men were being led away from the human and social aspects of the role of the physician. It contained other criticisms of the bias toward narrow training in the sciences: that the prospective physician did not get the liberalizing type of education that would prepare him to live the full life and deal effectively with life experiences, that he tended to become immersed in the technical aspects of his

profession and, correspondingly, that he failed to play a constructive role in civic activities and as a citizen. Furthermore, a student narrowly prepared for one occupation, such as a physician, risks a high degree of frustration in case of rejection by medical school.

The report further questioned whether medical schools, by narrow prescriptions in training, were needlessly limiting themselves in their search for talent; whether the growing attractiveness of science as a career was causing the best students in science to shift away from medicine as a career; and whether the concept of medicine, which was shifting from the treatment of disease to the aim of keeping well people well, now required a broader approach to the study of medicine.

The AAMC report did not propose to eliminate the sciences. On the contrary, the importance of the natural sciences to medicine was recognized. It was also recognized that state laws and regulations controlling licensing in the profession included science prerequisites. Science is important both for the liberal education of the citizen and the technical education of the physician. However, it was also recognized that the needed science requirements could be fulfilled without majoring in science. The report recommended that the medical schools consider applicants majoring in concentrations other than the natural sciences, evaluating the major according to how it "develop[s] intellectual capacity along some one line or a few closely related lines toward a high level of maturity /1953,

p. 1297." The applicant should have developed the ability to learn by himself at an advanced level. His education should be balanced, and he should learn the relationship of his major to other fields of knowledge.

In its overall tone and principal recommendations, the report advocated broadening the educational foundation for professional study (including medicine) to encompass the liberal arts. No consideration was given to the possibility that other undergraduate curricula, such as professional education or nursing education, might prepare a student adequately for medical school. The writers expressed "our firm conviction that the best preparation for any future job, including the job of being a good citizen, is a genuinely liberal education [1953, p. XVIII]." The report advocated a four-year undergraduate preparation for the reasons that adequate breadth can best be obtained by taking the whole degree program and that the fourth year can offer an integrating experience in dealing with the knowledge, the ideas, and the methodologies of the liberal arts. The four-year major would, thus, provide a mastery of an area and not be a patchwork. The report recommended abandoning the practice of conferring the bachelor's degree after three years of college and one of medical study.

According to the report, the goals of a major should be directed toward giving the student an understanding of medicine as "an instrument of culture, its social and institutional foundations, and its

characteristic contributions to man's search for human values [1953, p. 143]."

The AAMC authors appeared to be strongly oriented toward the humanities as the core of liberal education. They delineated to some degree the cultural and intellectual contributions of literature, languages, history, and philosophy. They also endorsed the study of the social sciences, especially the psychology of human behavior. They recommended that "the future doctor should be equipped with insights into human relationships and sensitized by acquaintance with the social studies and humanities [1961, p. 232]."

The report subscribed to the idea of recruiting for medicine those students who demonstrated superior academic ability. The "qualities of mind" were considered of major importance. Honors programs for superior students were strongly endorsed. According to the report,

> As never before in our history, we need an aristocracy not based on birth or material wealth, but...an aristocracy of intellect...dedicated above all else to those ideas and activities which advance human dignity and well-being [1961, p. 184].

While recognizing the importance of high academic achievement, the report criticized pressuring premedical students to compete for grades. The students would seek grades rather than knowledge and, thus, inhibit the process of liberal learning. On the other hand, the report warned against taking a light load in college. It noted the opinion of medical educators that failure to keep the pace

at which medical studies must move lies at the heart of the difficulties encountered by poor achievers in medical school. Training for this "hard, fast race" must take place in the undergraduate college.

In addition to academic performance, the report endorsed other criteria for admission, including especially good personality, character, and motivation. It stated that judgments about these intangible qualities should be made at the undergraduate college so that appropriate counseling may be given the student. More especially, the judgments should be based upon a number of observations about the person: his growth in maturity while in college; his personality; his integrity; his emotional or psychological difficulties; his health; his participation in extracurricular activities; his work with others outside of the classroom; what kind of doctor he will be and whether he will stay with the profession. The report recommended that "no person should be denied the opportunity to fit himself for the profession of medicine because of color, creed, national origin, or socio-economic status /1961, p. 20/."

The report stated that "the reputation or standing of the student's college has always been an important part of the data /1961, p. 52/" and by failing to discuss the point seemed to endorse the medical schools' practice of admitting primarily graduates from colleges of high academic or social prestige.

This report apparently has strongly influenced medical schools in their attitudes toward premedical education. If the policies

endorsed by this report continue to be followed, black students will still be systematically excluded from white medical schools.

Dental Schools

Dental schools also appear to be following a model, or at least an agreed-upon pattern. The literature does not reveal a study of preprofessional education as extensive as the one for schools of medicine. However, a national survey of dentistry devoted a section to the subject (Hollinshead, 1961) as did a bulletin of the American Association of Dental Schools (1969). The authors assumed that these two documents represent official viewpoints of the Council on Dental Education of the American Dental Association and the American Association of Dental Schools.

The pertinent sections of the bulletin are the following:

> The Council on Dental Education of the American Dental Association prescribes for admission to an accredited dental school the completion of at least two years of college education in an accredited college of liberal arts and sciences. This requirement must include credits for one full year each in English, biology, physics, and inorganic chemistry and one-half year's credit in organic chemistry. It should be duly emphasized that these are the minimum requirements and that the prospective applicant is well advised to surpass these requirements...Many dental schools require longer attendance in pre-professional education and a variety of additional required courses are prescribed by individual dental schools /p. 137.
>
> Once the student has matriculated into dental school, the educational program which he or she will experience is a concentrated, specialized and specifically oriented one. For that reason,

> the prospective dental student is encouraged by dental educators to avail himself of the rich opportunites for liberal education...Increasingly, the practice of dentistry involves the understanding of psychology and sociology, the political arts and sciences, economics, and the broad spectrum of arts and sciences which contribute to the full realization of professional potential. Dental schools...favor the acquisition of meaningful, personal intellectual experience... Electives should be the choice of the individual student based upon his own intellectual curiosity... A harmonious and well-balanced blend of subject matter in the pre-professional curriculum will contribute to the ultimate enjoyment of professional life and its concomitant responsibilities [p. 147].

The wording about the more specific requirements has remained substantially the same since it was first applied to the entering class of 1942-43. The survey report (Hollinshead, 1961) expressed agreement and observed:

> The effect of this requirement has been to place dentistry in a relatively favorable position among various areas of higher education commonly referred to as professional and distinguished by the fact that they are under the supervision of professional accrediting agencies [p. 273].

The survey report was concerned about the failure of many dentists to secure a liberal education. The survey authors suggested that if the dental schools required three years of predental education, instead of two, the student would have time to obtain the necessary technical foundation for the study of dentistry and time to elect courses providing a better breadth component. If such additional time is stipulated, it should not be used, stated the

report, merely to study more courses in chemistry and biology. Instead, the student should select courses from the humanities, such as literature, philosophy, art, music, and religion, and courses from the social studies, such as sociology, anthropology, psychology, political science, and economics. The report, however, did not recommend that three years of predental study be made a hard and fast rule but suggested that individual schools experiment with such a requirement to see whether in fact it did result in a broadening of the student's education.

The survey report stated that

> it is important to dentistry and the public... that the caliber of entering dental students be examined regularly and that every effort be made to achieve continuous improvement in the quality of applicants /p. 263/.

Quality seemed to mean the "academic capabilities of persons entering /p. 263/." This conclusion is substantiated by the response to questionnaire items by the deans of the dental schools. In stating their views about the priorities among criteria for admission, they listed /p. 280/ as having "great importance," "moderate importance," and "least importance," respectively, the following:

Priorities among Criteria for Admission to Dental Schools, as Estimated by the Deans

Importance by Percentage of Deans

	Great	Moderate	Least
Predental scholastic average	91.5	8.5	
Grades in required courses	83.0	12.8	4.2
Dental aptitude scores	74.5	25.5	
State of residence	36.2	21.3	42.5

The fourth highest criterion, state of residence, showed only 36.2 percent of the deans estimating this factor as greatly important. Altogether, seventeen factors or criteria were listed by the deans in response to the questionnaire. It is clear from the deans' answers that most place greatest weight upon grades and aptitude scores.

Data collected from the applicants for the year 1958-59 showed that 32 percent had majored in biological science while 40 percent were predental students with no major. With only two years of predental education required, the term major has little significance. However, in surveying the "beliefs" of the applicants, it was found that 76 percent thought that they would enhance their chances for admission to dental school if they took courses in biology and chemistry in addition to those required, and 88 percent believed that by taking additional years of predental education beyond the minimum they would also improve their chances.

As with medical students, the survey found that dental students also come from a fairly homogeneous social group. The applicants "tend to come from families with a high degree of economic security /p. 264/." The report included a plea for additional funds to enable students from a broader socioeconomic spectrum to attend dental school.

EDUCATIONAL BREADTH REQUIREMENT

Some medical and dental schools recommend that applicants for admission have substantial breadth of cultural education. The AAMC

report focused on the value of a liberal education and recommended that the baccalaureate degree in liberal arts be obtained prior to admission to medical school. The AADS, although advocating only two years of college, endorsed this view of the values that flow from the study of liberal arts.

The AAMC model seems to have influenced considerably the policies of medical schools, because the announced criteria for admission of students parallel closely those proposed in the report. Some courses in the natural sciences are required as basic; if the entering student does not possess certain fundamental knowledge and laboratory skills in the physical and biological sciences, he will have to acquire them. A science major is not required, however, and some schools state in a positive way that the student should select an undergraduate major of **his** own choice.

In reality, however, medical and dental schools continue to emphasize a foundation in the sciences, especially the biological sciences. Although the model and published admissions requirements stress a liberal arts background as desirable and de-emphasize science as a major, a large proportion of students admitted to medical school are science majors. The students rightly perceive that medical and dental schools show preference to students with substantial training in science and that a good record in science (as well as a high score on the science subtest of the MCAT) will facilitate their acceptance. Such emphasis on science relegates the humanities to the status of little more than window dressing, preparing the degree

holder to function in polite society with persons of his own class and, it is hoped, imparting some understanding of people and society that would be reflected in later professional life and activities.

For students planning an academic or research career in medical science, admissions criteria stressing science are realistic and certainly justified. However, for students whose main interest is practicing medicine, non-science academic backgrounds assume high importance.

The concept of "major" in the AAMC report is that commonly held by academic men in the liberal arts. An appropriate major is a "discipline" that trains the mind, the assumption being that a discipline trains the mind. Since it is the business of college to train the mind, this concept is appropriate. However, what is actually presented to the student, in most cases, is a hierarchy of subject matter, the absorption of which does not necessarily prepare the student to function in medicine. Medical practice, as distinguished from medical research and teaching, does not demand abstract thinking as much as it requires skill in problem solving. Such skill may be developed through studying areas other than the sciences and humanities. Training for the retention of data has some importance but has been overstressed in medical school. Swiftly changing perceptions about disease render much data quickly obsolete.

A wide range of undergraduate majors should become acceptable to medical schools. Indeed, medicine itself might well become the

major--the study in depth--for the medical student. The AAMC report recommends eliminating the practice of combining liberal arts with a year in medical school to qualify for the bachelor's degree. However, delaying the study of medicine to force an applicant to complete a liberal arts major is not justified. The criterion for acceptability of a major should be the depth with which it is studied rather than whether it falls within the parameters of the liberal arts. Thus, the study of medicine qualifies.

The typical college major is composed of a group of courses within an academic department. Departmental walls may severely handicap a student preparing for medical practice that must deal with patients as subjects of social and psychological stress as well as physical ills. In a departmentally organized college the student may be barred from taking a sequence of courses in the behavioral sciences because his chosen major has been narrowly structured by the department. A student should be allowed to study a field of knowledge for four years if that is his choice. However, to require a bachelor's degree in liberal arts and, thus, force a student to major in a specialization that does not advance him toward his goal is an unwarranted imposition.

The AAMC report idealizes a liberal education based on the Graeco-Roman tradition of the West and accepts a hierarchical view of knowledge that places the humanities at the apex. Such views ignore the cultural values contributed by other civilizations and

imply that there is only one route through which a man may become well educated. In pluralistic America, however, a liberal education as conceived in the AAMC report might be frustrating or traumatic for some students and miseducative (in a doctrinaire sense) for others. The black student may very well find distasteful a course of studies limited to the Graeco-Roman tradition, which depicts the philosopher at the apex of a society supported by slaves.

The humanities, as the medical student has been able to incorporate them into his premedical education, do not seem to have a significant impact. First, the courses available to students for achieving breadth of knowledge are seldom designed for this purpose. At the freshman-sophomore level they typically are too superficial and broad in scope; they are the introductions to specializations and oriented toward a sequence in the field. Second, studies of the socialization of medical students, that is, on how they acquire the values, attitudes, and knowledge in their chosen profession, have indicated that "cynical" attitudes and loss of humanitarian values develop during medical training (Merton et al., 1957; Becker, et al., 1961).

The length and intensity of study in medical school, as well as courses such as those in the sciences that demand detachment and objectivity, contribute toward a loss of humanitarian values. If these values are to have meaning in medical practice, they must be incorporated into medical school curriculum. This is one reason why the teaching of medicine needs considerable revision.

The advocacy of honors programs is consistent with the cry that America needs an aristocracy of intellect (as the AAMC report calls it). It would be difficult to criticize this recommendation as a goal for liberal arts colleges. It is, however, of questionable validity as preparation for medical school. Outstanding intellectual achievement is important for medical research, specializations relating to unusual diseases, and teaching in professional school. Substantial knowledge and good skills are requisite in every type of medical practice. But the honors student may make a poor general practitioner. And more practitioners are badly needed in our society. Analogies can be drawn from other professions: the science-trained engineer may make a poor "nuts and bolts" practitioner; the elementary school teacher whose intellectual interests and skills have been cultivated too far afield from the learning levels of his pupils may not have the patience and skills to teach the children.

The admissions data show that a disproportionate number of applicants have been accepted from about one hundred liberal arts colleges. This may be based on the belief of the superiority of these colleges or on the socioeconomic class of students that attend these colleges. In either case, the bias screens out from consideration good applicants from hundreds of other undergraduate institutions.

The AAMC report strongly recommends, as noted before, four years of premedical education. The reasons given have certain merit,

and medical schools do in fact admit applicants who have studied four years despite stated requirements of only three years. However, the social problem caused by the shortage of health personnel is urgent; the prolonged period of study prescribed for this profession is not necessary; and the cost of the long period is a serious barrier to young people of slim finances. For these reasons, prolonging premedical study is both ill-advised and discriminatory. Three years of preprofessional education is enough to acquire the necessary knowledge in the basic sciences and the behavioral sciences, with cultural breadth enough to satisfy needs in the medical profession. The aim should not be time-serving--which presents the student with psychological and financial barriers--but achieving goals in education based upon well-defined criteria.

One problem is that the goals of education have not been clearly defined. The usual approach to defining the goals of a liberal education is to list the subjects to be required. Instead, the criteria should be based on achievements. A good example of criteria is found in the introduction to the AAMC report itself. As stated by Theodore M. Greene (1961), they include:

> First, training in the accurate and felicitous use of language as the essential condition of all reflection, self-expression and communication with others; second, training in the acquisition of factual knowledge of ourselves, our society, and other societies, the physical world and ultimate reality, so far as it is humanly knowable; third, training in mature and responsible evaluation and decision in the controversial areas of science, social policy, morality, art,

> and religion; and fourth, training in synoptic comprehension, that is, in the escape from the multiple provincialisms which bedevil mankind and in the attainment of larger and more inclusive perspectives [p. XXI].

These words of a philosopher can be simplified for this discussion: self-expression and the ability to communicate, breadth of knowledge, the ability to evaluate situations and make decisions, and the skill of integrating knowledge on a comprehensive basis. Such objectives can be universally endorsed and not only as the basis for preparing for professional school; they should continue as desirable criteria for learning while in the professional school. They apply to the total education of the individual.

These educational achievements can be attained by graduates of black studies programs and other non-Western studies as well as the usual Western-based curriculum. In fact, achievements of this type may come more readily to black students as they become highly motivated in their study of black culture.

The AAMC report cautions the student to prepare for the "hard, fast race" of medical school. This race is the product of a dysfunctional and obsolete mode of teaching belonging to the didactic era of instruction and impeding learning by problem solving. Medical students can no longer be taught by filling them with all available medical knowledge; they must be taught how to continue to learn throughout the years of their practice. Competing for grades is a false incentive for learning, and its results are only temporary.

More important, the competitive incentive is obsolete because competition as a mode of medical practice can only subvert the team efforts required in the solution of health problems today.

In summary, the AAMC model is elitist. It served a purpose once in persuading medical faculties of the need for greater breadth of cultural knowledge on the part of physicians, and it influenced the schools and premedical advisers in the colleges toward greater flexibility in requirements for admission. However, radical revision is needed in light of our concerns about health services and about the recruitment of physicians and other health personnel from disadvantaged segments of the population, and fresh effort needs to be made to achieve the objectives that the authors of the report really had in mind.

Lloyd C. Elam, dean of Meharry Medical College, has stated well the need for change. According to him, the old way to promote excellence was to screen applicants to obtain a homogeneous group, then cause the students to conform to a mold (surrendering their individuality). The new way caters to diverse subcultures and widely varying interests and abilities and allows each student to progress at his own rate of intellectual and maturational development (Elam, 1969).

It is time for the medical and dental schools to adopt a fresh image of the physician and dentist as a professional man. In the early postwar period, the medical schools of New York State were

accused of discriminatory practices in admissions. A legislative investigation showed that about half were discriminating against Jews and applicants of middle and eastern European descent (Berkowitz, 1948). Most medical and dental schools have discriminated against women by demanding better qualifications of women applicants than they have of men. Although these schools have moved to recruit and admit blacks, Chicanos, and Native Americans only within the past three years, fewer than half have really moved. Their history is one of racial and ethnic discrimination engaged in with the "noble" view of recruiting for the profession persons with a cultural and class background perceived of as the "highest type." This period of American history is at an end. The WASP (white, Anglo-Saxon Protestant) image for medicine and dentistry must go. A number of schools, especially of medicine, recognize this imperative and are changing their policies. All of them must do so. One must view with skepticism professional schools' requirement of breadth of culture so long as by their practices they condemn cultures other than the one toward which they are favorably prejudiced.

CHAPTER IV

Educating for Service

Traditional undergraduate liberal arts courses, required of most premedical and predental students, have failed dismally to motivate doctors and dentists to become concerned with the health problems of the poor, be they black or white. Examination of black studies programs leads the authors to believe that these programs, if planned with the purpose in view, would be a source of additional doctors and dentists with humanitarian and community-oriented values.

BLACK STUDIES PROGRAMS

The demand for black studies at many colleges and universities across the nation during the last few years has resulted in a new look at the needs and desires of black students and black communities. A survey of student protests in 232 colleges and universities, including seventeen black colleges, from January through June of 1969, reported that black students at black colleges most frequently demanded more student participation (59 percent), followed by the demand for more black courses (47 percent). In predominantly white

colleges, the most frequently voiced demands of black students (61 percent) were for more black courses, and 48 percent wanted more black faculty (Urban Research Corporation, 1970). These issues are still the most salient ones for black students in white colleges and universities.

Advocates of black studies programs have argued that the educational experience in America is a white experience that turns the black person who passes through it into a middle class white person. Therefore, they have concluded, the experience is not relevant to the needs and aspirations of black people because it has contributed nothing to the black community. Black studies are promoted as a means of bolstering the ethnic pride and confidence of black students who have been denied these by a racist society (Wisdom and Shaw, 1969; Hare, 1969; Robinson et al., 1969).

Proponents of black studies also have suggested three goals that black studies could or should have (Hare, 1969; Robinson et al., 1969; Crouchett, 1970; Cleveland, 1969). The first is therapeutic, with the program seen as a means of changing a negative self-image to one reflecting the belief that "black is beautiful." The intellectual or academic goal would be to train black scholars who would teach or research the black experience. The political or pragmatic aim (the most controversial function) would be to provide skills to assist the black community in its "struggle for liberation" and in the development of "black nationalism."

Opponents of black studies have questioned the intellectual validity of studying the black experience and cautioned against politicizing the university (Kilson, 1969). Others hostile to the program have expounded the view that the only way for blacks to gain power and win their struggle is to know their enemy and that this can be done only by acquiring a more sophisticated knowledge of American society by studying subjects such as business practices and the communication media (Blassingame, 1969). Finally, some have argued that black studies courses should be taken by white students who need to know about the black experience but that blacks can solve some of the problems of their community only by acquiring skills in engineering, law, medicine, economics, and so forth (Lewis, 1969).

The pros and cons of black studies programs have been and are still being debated, and the programs and courses are still in flux. Many programs are plagued by financial and administrative difficulties, and the issues of the role of black students in running the programs and the exclusion of white students from courses are unresolved (The Chronicle of Higher Education, 1970). Despite these arguments and problems, black studies programs are becoming part of the curricula in many colleges and universities. New departments, courses, and centers or institutes are being planned and implemented at schools across the country. Black students (and white) are showing intense interest in these developments.

Black studies may have an additional goal to those just described, that is, to interest a larger number of black students with

community-oriented values in entering the medical and dental professions. According to James M. Whittico, Jr., past president of the National Medical Association, the number of Negroes in white medical schools dropped between 1955 and 1962 when integration in education became official U.S. policy, and enrollments at Meharry and Howard are also declining (Priwer, 1969). There are also fewer black dentists relative to population in this country than before, and fewer black students are entering even Meharry or Howard dental schools (Applewhite, 1969).

Most black physicians and dentists in this country come from a middle or upper middle class background, as do their white colleagues, and reflect the same values as their white colleagues. Gaston Bouquett, a black physician whose patients are mostly poor and black, says that "...75 percent of black physicians would rather not have anything to do with the ghettoes and the slum element" because "...historically they've been taught black was bad and white was good [Vogl, 1969, p.111]."

Advocates of black studies have suggested that these courses will lead to the development of a positive self-image or self-perception. Research on the academic achievement and motivation of black students has found that a favorable self-perception and a positive concept of internal control (defined as the belief by a person that his success is contingent upon his own behavior or skills) are determinants of academic performance (Coleman, 1966; Gurin et al., 1969;

Epps, 1969). If, indeed, black studies courses can result in a positive self-image, which is related to academic achievement, then it can be hypothesized that increasingly successful experiences in academic courses might encourage black students to widen their educational goals and aspirations by planning, for example, to continue their studies in graduate or professional school.

However, an examination of many proposals or rationales for the establishment of black studies programs reveals that few if any are professionally oriented. The possibility of using the courses to encourage or prepare black students for a profession other than teaching is rarely discussed although both proponents and opponents realize that the black studies curriculum "will have to find its ultimate justification in its ability to fulfill the occupational and social needs of Black America more than the psychological and nationalistic uses [Crouchett, 1970, p. 337."

The description of the content and structure of black studies programs as they exist today is based on two Center studies as well as on a questionnaire study by Cleveland (1969). Cleveland studied 193 randomly selected institutions of higher education. He reported that 32 percent offered courses "focusing on the Negro's accomplishments," and that black history, black literature, and interdisciplinary courses constituted the majority of the course offerings. The first Center study was conducted by the authors, who sent a letter to sixty colleges and foundations in May and June of 1969, asking

for copies of the format and content of black or other ethnic studies programs and asking two questions about the use of ethnic studies programs as a preparation for professional school. The responses from this study served as a basis for a second Center study by Christensen, Ruyle, and Hurst. A fuller description of the two studies is discussed in the chapter on methodology.

Data collected by Christensen et al., reveal that of the 200 institutions offering some type of black studies, 38 percent offer random courses, 30 percent have programs with no degree, 16 percent have programs with a degree, 9 percent have departments, and 7 percent have established centers or institutes. Of the programs with degrees, 87 percent offer a B.A. and 13 percent an A.A. Titles of the programs fall mostly into three categories: random courses, 35 percent; Afro-American studies, 27 percent; and black studies, 29 percent.

An interesting finding is that black studies of some type, whether random courses or full degree programs, are most likely to be offered at institutions having the smallest enrollment of black students. That is, 75 percent of the black studies courses or programs are located in institutions reporting 10 percent or less of their student body as being black, while only 13.5 percent of the institutions offering some type of black studies have black student enrollments of from 76 percent to 100 percent. This is partly a reflection of the fact that most of the institutions in the sample have small black student populations.

The courses themselves are often interdisciplinary in character and many of them include some fieldwork and community activities. Crouchett's examination of thirty black studies programs reveals that

> seven courses consistently serve as a core: Afro-American History, Afro-American Literature, African History, Afro-American Sociology, Black Psychology, Black Theater and Drama, and African and Afro-American Art. The Afro-American History course is usually the heart of the program, and most often used as an introductory step into the program /Crouchett, 1970, p. 34/.

The behavioral sciences are well represented in many programs in courses such as Sociology of the Black Family, Economics of the Ghetto, Economics of Racism, Politics of the Black Community, or Psychology of Prejudice or variations. Many of these courses fit well within the realm of the liberal arts and behavioral science courses recommended for medical and dental school applicants.

A black studies program that encouraged students to plan a career in medicine or dentistry might consider offering courses which included fieldwork at hospitals and clinics; social science techniques and methodology to train the student to identify salient issues and problems in the minority community and interpret relevant statistical and demographic data; a study of ghetto institutions and organizations, such as the church, schools, social and economic groups, and medical facilities; and the cultural and artistic expressions of black people in literature, drama, art, music, and dance. These courses would be taken in addition to the science and math prerequisites required by all medical and dental schools.

The National Medical Association has recently established a foundation

> on the theory that no one knows the problems of delivering first-rate medical care to the poor better than the Negro physician in private practice. Its policy is to break the humiliating pattern of ghetto care by setting up comprehensive care facilities on the edge of the ghetto areas, in which both poor and affluent alike will be treated by private physicians on an equal basis /Priwer, 1969, p. 287.

In order to succeed in its goals, many more black physicians and dentists are needed.

Students electing black studies or other ethnic studies programs in college should be aware of the importance that medical and dental schools place on preparation in the natural sciences. Students must be prepared to choose the necessary courses in the sciences parallel to their courses in black studies.

Earlier we presented evidence that the professional schools are open minded about admitting students whose general education has been in black studies. This policy should be continued by the schools. Although black studies materials and curricula are still in the formative stage, they may yet offer advantages to the black student in building pride and confidence and in preparing him for a professional career. It should be borne in mind also that the traditional liberal arts program has fallen far short of producing the dedicated service-oriented professional. If black studies programs can encourage students to seek a medical or dental career, as well as develop a sense

of ethnic pride and commitment to their community, the medical and dental professions as well as the poor will be the winners.

BEHAVIORAL SCIENCES

Although the concept of health is changing to include psychological and social as well as physical health, medical and dental schools do not require behavioral sciences for admission and are quite vague in their recommendations about this area of knowledge. Medical and dental students are still increasingly oriented toward the scientific rather than the human aspects of medicine. Behavioral sciences as a prerequisite for the study of medicine and dentistry are discussed here because of their relevance to the understanding of health problems today as well as to the admission of black and other minority students.

A dental educator has stated that

> ...dental education must include the sociologic and psychologic aspects of human behavior because the dentist will have to move toward an understanding of the patient as a total person, and of the community with which he and the patient interact socially [Douglass, 1969, pp. 323-324].

On a different level, the admission of more black students to medical schools and black physicians to medical societies and hospital staffs may introduce problems of human relations which knowledge in the behavioral sciences could help solve or even prevent.

No model exists for behavioral sciences that officially represents the American Association of Medical Schools or the viewpoint

of a consensus of its members. However, a model can be constructed, based on two separate publications. Funkenstein's paper (1961) was published as a supplement to the report of the AAMC report discussed earlier, and it is, therefore, assumed to have a degree of official support. Cope's book (1968) was based upon discussions at the Swampscott Study of Behavioral Science in Medicine, October 23 to November 4, 1966. The study was jointly financed by the Commonwealth Fund and Carnegie Corporation of New York. It has special value in being recent, because the views of medical educators have shifted considerably since 1961.

Funkenstein's findings and recommendations had only slight impact on the recommendations of the main report. The authors were so concerned with the humanities tradition of liberal learning that they overlooked the contributions of the behavioral sciences in the diagnosis and treatment of illness; that is, the psychological, sociological, environmental, and ecological problems of human beings. Funkenstein wrote that "the physician must be prepared to play quite a different role in society than has been true in the past..../p. 237/." This is because of an increased understanding of emotional illness and because of the mounting evidence that adverse sociological and environmental conditions create susceptibility to both psychological and physical disease, increase the incidence of ill health, and intensify its impacts upon individuals.

Cope (1968) stated that

> ...it has become evident that psychology in all its ramifications is as essential to the understanding of psychiatry as physiology is to the understanding of pathology...Sociology and more recently anthropology have also joined the group of disciplines relating to human behavior and along with psychology and psychiatry, are to be considered parts of behavioral science important for the doctor to comprehend /p. 16/.

The Swampscott Study then sets forth the particular concepts and data from the behavioral sciences that should be included in the program of the student of medicine:

1. The interdependence of biological, psychological, social and environmental phenomena in determining
   a. The pathogenesis, distribution, diagnosis and management of specific disease processes,
   b. the potentialities for prevention or modification of disease, and
   c. The beliefs, attitudes and values associated with human response to illness in general and to specific forms of disease.
2. A historical perspective and a perspective of comparative cultures as bases for considering the impact of technological and social change on
   a. the nature of contemporary and future society, and
   b. the nature of contemporary and future medical science and forms of medical care.

3. Processes of communication and human relations that are basic to the interaction of health personnel with patients and with each other, and the application of communication skills to activities in the medical setting.

4. The social structure of universities, hospitals and other health organizations and the factors governing the organization and distribution of health resources to the community /pp. 98-997.

The body of knowledge that would contribute to understandings, such as the foregoing, would be drawn from three divisions, as follows:

a. Neural-Behavioral Sciences

Physiologic psychology
Chemical psychology
Behavioral pharmacology
Behavioral genetics
Embryologic and morphologic development of the nervous system

b. Individual Psychology

A study of personality and personality development, including the concepts of affect, memory, learning, motivational drives, communication, consciousness and language.

These would be presented as a series of observations, and in the theoretic formulation of these concepts, use would be made of the prevailing schools of thought concerning their integration. Of these the most prevalent is psychoanalytic theory, although others provide interesting although as yet incomplete formulation (e.g., S-R theory, learning theory, etc.).

c. Social-Cultural Sciences

Anthropology
Sociology
Ethology
History (organization of man)
Economics
Political Science
Demography

> These should include the development of concepts of dynamic social change; historical and cultural relativity; social class and social stratification, including analysis of social systems; role; functioning of small and large groups and organizations /Cope, 1968, pp. 99-100/.

As with physical sciences, some insights and knowledge can be gained in premedical courses and some in medical school. The aspects that must be taught in medical school include, for example, the impact of emotions on migraine headaches, heart disease, and strokes and control of ovulation by the hypothalamus. On the other hand, the types of knowledge that can be gained at the premedical level are many and diverse, including individual development, learning, communication, ethology, unconscious motivations, social systems, and culture.

To these should be added materials and teaching-learning techniques devoted to assisting the student in gaining self-understanding. Funkenstein places great importance on achieving congruence between the aims of the student and those of the medical school. He presents data to show that close congruence results in high achievement and that disparity in aims has the opposite effect. Cope states that

"medical faculties have a studied way of ignoring the particular experiences and talents of students, as though they didn't matter /1968, p. 707." To accomplish close congruence requires greater flexibility in attitude and programs in the medical school so that students, if they desire to do so, can pursue personal and humanitarian goals.

The behavioral sciences, then, have an importance that has been overlooked. The counseling of premedical students and the selection of students for medical school do not sufficiently take account of the learning that should be expected in this area. Both the practices of the medical schools and the models for admissions requirements are seriously deficient in this respect.

The prospective physician who is black is likely to have had a living and environmental experience that should render him highly sensitive to certain psychological and sociological problems. The inclusion of the behavioral sciences among the admissions requirements should open doors to greater numbers of black students, especially those in black studies in the undergraduate curriculum because of the program's emphasis upon achieving self-identity and an understanding of a disadvantaged segment of the population.

MULTI-TRACK TRAINING PROGRAMS

A recent trend in the delivery of health services may affect considerably and be affected by admissions policies of medical and dental schools in the future. The new development is the team method

of attacking health problems, an effort involving large numbers and several categories of supplementary and complementary personnel. In medicine (in addition to nurses), these persons include diverse types of paramedical technicians, and a beginning is discernible in training physicians' assistants and nurse medical practitioners. Training programs for such positions are given in several types of academic institutions. However, certain programs, such as those for dental hygienists, physicians' assistants,and nurse pediatrics practitioners, usually involve partial or full training in the medical or dental school. The programs require special admissions criteria and procedures. Since they represent new "tracks" for study, appropriate adjustments in admission are made.

The concept of tracks has already been established in some medical schools. They relate to (1) differences in training for academic and scientific roles as distinguished from medical and dental practitioners and (2) differing paces of study. Some schools, for instance, offer both four- and five-year programs, admitting students with less adequate preparation to a five-year curriculum. When a student's goals are academic teaching or medical research, his undergraduate focus should be in the sciences, whereas the prospective practitioner needs more orientation to the health problems of people. In these cases, some differences in admissions requirements are indicated.

The team approach to the solution of health problems will probably bring into being a new collegial relationship between the doctor

and the staff, each of whom has a contribution to make. The more the health problem is based on social rather than purely physical origins, the more urgently is needed the team attack on the problem. Furthermore, a diminution of the entrepreneurial form of professional practice in favor of a reorganized system of health services will help establish more of a collegial relationship among the members of the team.

One of the implications of these projected changes is that various categories of health personnel at the senior level--that is, non-M.D.'s who engage in diagnosis and therapy in restricted situations--should be taught in medical school during the beginning stages in core courses common to all medical students. This presupposes some attention to the admissions requirements of all of these persons, especially as they relate to subjects that are necessarily sequential.

Another aspect of this subject is a growing demand for new career ladders in the health services field. One cause of the shortage of physicians has been the rigidity of the educational program for physicians. A nurse, for example, cannot continue her studies and become a physician without backtracking all the way to admission to the first year of medical school. The successful use of feldshers (health workers who work under a physician as part of a team or independently in many rural areas of Russia) demonstrates that the person who has had partial training in medicine can, under general supervision, make diagnoses and give therapy. Medical study should

take account of the prior education and experiences relevant to medical practice. Selected nurses with the appropriate core foundation should be able to study for the next higher level of professional responsibility without having to begin all over again. When Soviet Russia claims that a large percentage of its doctors are women, it is including the feldshers in the count. A large potential supply of medical and dental personnel is available in already trained women, and career ladders should be provided for them.

Greater opportunities may be available to blacks, too, as the team concept gains acceptance and career ladders open up. In urban communities with acute health problems where social conditions contribute heavily to the problems, the black professionals have a significant role to play, whether trained as physicians and dentists or in other capacities. Their knowledge and skills are essential to have on the team. Indeed, they may compose the most effective teams. Motivation to serve can have full expression.

The open-ended career potential of these new avenues to the professions may also have value for black and other youth who are disadvantaged financially and socially. A physician's son takes it for granted that there is only one path to becoming a physician. But one to whom an upper middle class environment is foreign, and for whom the finances required for prolonged education seem prohibitive, may become motivated to study for the first remunerative rung of a career ladder. Later he may aspire to the larger goal and resolve

to study toward it. He should not be confronted with barriers, he should be encouraged to continue on a path to the higher level of professional career. A curriculum that provides a core of subject matter for several types of senior professionals followed by a multi-track curriculum to meet varying needs is a promising possibility for the future.

This discussion implies that medical and dental schools must undergo considerable reorganization in objectives and in methods. They must discard, and some of them are discarding, the notion that "a physician is a physician is a physician" and, thus, only one pattern of standards and courses is needed. This assumption about medical education is obsolete.

CHAPTER V

Summary and Recommendations

The nationwide shortage of physicians and dentists is a fact now being recognized by the Association of American Medical Colleges, the American Association of Dental Schools, and the American Medical Association. The available health services are strongly skewed in favor of affluent patients able to pay for specialized treatments. Although limited health services, including those under the Medicaid program, are also available to the very poor in urban areas, they are totally insufficient to care for the urban problem. The shortage of physicians and dentists in urban core and rural areas results in seriously deficient health services for persons in the lower socio-economic categories and contributes to our poor health statistics, compared to other industrialized countries in the world.

The ratio of black physicians and dentists to black population is seriously low. This is of great importance because black professionals serve the black population whereas white professionals do so only to a minor extent. Because of the growing recognition of the great disparities in health services available to the rich and poor, it seems probable that these services will be reorganized within the

near future. When they are reorganized, the role of black physicians and dentists will be greatly enhanced because of the greater access to health care they will be able to provide the black communities.

Admissions of applicants to medical and dental schools are biased in favor of either white, upper class, Anglo-Saxon youth, or those who score high on achievement and aptitude tests, especially in the sciences. One of the consequences of these admission biases has been a screening out of nonconforming applicants. The schools have also been selecting as future professionals students who are highly qualified intellectually and more interested in medical and dental research than in practice. These interests have so dominated the faculties of the medical schools, that graduates in medicine choose less and less frequently to become general practitioners concerned with offering good health services to the people.

Another result of these policies has been to limit the selection of applicants to those whose educational foundation is of the traditional liberal type. There is, however, little evidence that the goals of this humanities-oriented liberal education have influenced the values and civic activities of physicians and dentists. The widespread use of the liberal education breadth criterion for admission also lengthens the time and, hence, the cost to the prospective physician and eliminates applicants with other relevant backgrounds such as in professional and nursing education. A liberal arts

discipline does not necessarily train the mind in problem solving, and the requirement of a "major" field of study may actually prevent the student from gaining much needed background in, for example, the behavioral sciences.

Within the past two or three years a few schools of medicine and dentistry have begun to recruit and train more black students. These programs are succeeding and should be expanded to include many additional schools.

Many black students today are attracted to new programs in black studies. These programs are in a stage of flux and experimentation, and it is difficult at this time to project their full value and impact. Such studies, although not in the Western-oriented liberal tradition, can, nevertheless, meet the criteria for liberal education in the best sense of the term. Black studies programs typically emphasize history and the behavioral sciences, and these have great relevance to the study of medicine and dentistry. The motivations to learn and to return for careers of service to the black communities are important to consider. Most medical and dental schools in our sample say that they are open-minded about accepting black studies as part of the preparation for admission to their schools.

The number of paramedical and complementary medical personnel is also seriously deficient. Blacks constitute a potential reservoir of qualified personnel for these fields.

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This report will conclude with some recommendations for changes in the criteria and requirements for admission to medical and dental schools. Changes of this sort take time to be agreed upon and put into effect. In the meantime, black students should be encouraged to consider medicine and dentistry as professional careers and to prepare themselves sufficiently to meet existing criteria for admission. Although medical and dental schools have considerable freedom of choice in whom to admit to their particular schools and, thus, individuals with deficiencies in preparation can be admitted and given assistance to overcome the deficiencies, the applicant should recognize the limitations established by the Association of Professional Schools and imposed by state licensing laws and regulations. For example, certain courses in the natural and physical sciences are being required for good reason because the professional school should not have to duplicate courses the undergraduate college is prepared to offer. Black students, along with active encouragement, should be given accurate counseling about these requirements.

RECOMMENDATIONS

1. The nation's health services are in urgent need of reform to remedy the disparities in care available to various segments of the population. Black communities, especially, lack physicians and dentists.

2. It is recommended to black students that they consider the health professions as a career and that they seek information and counseling about minimal requirements for admission.

3. Black students are an overlooked source of recruitment to the professions of medicine and dentistry. The standard admissions criteria and procedures of medical and dental schools discriminate against many of the black applicants. Each application should be studied with care, and criteria, such as motivation, concern for the health problems of the black community, and potential as a practitioner (rather than as a scientist), should be emphasized. More professional schools should follow the lead of those that have initiated special recruitment and follow-up programs for black youth.

4. The MCAT and DAT scores do not predict academic achievement as reliably as has been assumed. They definitely are not valid as criteria for minority groups with language and cultural backgrounds that differ from English and Western-oriented ones. It is recommended that the test scores be discontinued as a criterion for screening out applicants and be used only as supplementary information and as a basis for counseling.

5. Professional schools should adopt several possible curriculum tracks and vary admissions criteria and procedures appropriately. One such variation should make it possible for students with good potential but with inadequate preprofessional training to take additional work in order to overcome deficiencies.

6. Because the medical and dental schools should not duplicate or repeat courses conveying essential knowledge and skills attainable at the undergraduate level in the biological and physical sciences,

the admissions requirements in these subjects should remain the same. The schools, however, should avoid limiting their acceptances to those applicants who have taken more than the minimum requirements in science.

7. Because illness has physical and emotional as well as individual and social components, more courses in the behavioral sciences should be required and specified at the preprofessional as well as the professional level. The contributions of black studies to behavioral knowledge and skills for all students should be taken into account.

8. Medical and dental school faculty members should join in a study with undergraduate college faculty to define more carefully the general and specific objectives of preprofessional education and to develop curricula and experiences which would achieve these objectives. The goals should be to shorten the period of preprofessional education, to articulate the basic courses with sequences in professional schools, and to ensure that the cultural objectives and values taught during preprofessional education are continued in the training period of professional school.

9. Students admitted to medical and dental schools should be selected from a larger spectrum than from those who have had a traditional Western liberal arts education or who have graduated from a preferred list of liberal arts colleges.

10. Elitism in socioeconomic background should be discarded from admissions standards. The image held by medical and dental

schools of the desirable type of physician and dentist has had class and racist connotations and should be changed. It is of special importance to society that the interviewers of applicants discipline themselves to avoid projecting an obsolete and antisocial image.

11. Black studies curricula have not yet been evaluated for their substantive content or as means to achieve educational objectives, but it is recommended that the applicants who have taken such courses or majors be given sympathetic hearings. It seems probable that these students will be well motivated for continued study and subsequent professional work and that they will have gained considerable knowledge and skills in the behavioral sciences of relevance to the professions. These students should be able to make special contributions toward meeting the health needs of disadvantaged people.

12. It is recommended that black studies curricula should include courses and experiences to encourage students to seek careers in the health professions.

13. Students who enroll in black or other ethnic studies programs and whose goals are admission to medical or dental school and return to their community for practice should acquire foundational knowledge in certain basic sciences and theoretical and substantive knowledge in the behavioral and social sciences.

14. Medical and dental schools should evaluate carefully both the goals and values impressed upon their students and the image of

the professional which they desire to create. It is becoming difficult to justify the "hard, fast pace," the pressure for memorization, the prestige of the science-oriented objectives, the cultivation of attitudes of superiority over "lesser" members of the health team, the indoctrination of materialistic goals in practice and the fee-for-service system of practice, the impacts of non-cultural interests and activities, and the belief in the superiority of the WASP class background. All of these contribute to the creation of a doctor or dentist who, in today's world, is becoming more and more anachronistic. Students of whatever color should not be brainwashed into becoming upper class, white-oriented, high income-seeking practitioners.

15. This study concentrated upon the admission and recruitment of black students to medical and dental schools. It is recommended that the findings be applied to other ethnic minorities, and that the revision of admissions policies and practices be adopted by professions other than medicine and dentistry.

CHAPTER VI

Methodology

Three different methods to collect and present data were used in this study. First, medical and dental school admissions requirements were presented in the form of models, constructed from data described below. Second, information on admissions policies and programs for black students was presented, based on a short questionnaire sent to a randomly selected sample of medical and dental schools. Third, the content and goals of black studies programs were described, relying primarily on two separate surveys undertaken at the Center. These were supplemented by data from an unpublished master's thesis on black studies and many articles, speeches, and discussions with persons involved in black studies programs.

The model for medical school admission was based on data from two studies by Severinghaus, Carman, and Cadbury, Preparation for Medical Education in the Liberal Arts College (1953 and revised in 1961), a study by Cope, Mind, Man and Medicine, The Doctor's Education (1968), and a description of medical school admissions requirements in 1969-70 in this country and Canada, published by the Association of American Medical Colleges.

The dental admissions model was constructed on the basis of data from a survey of dentistry conducted in 1959 by Hollinshead; the description of requirements of American dental schools in 1970-71, published by the American Association of Dental Schools; and the personal correspondence of one of the authors, Algo Henderson, with dental professionals.

Because, in some cases, policies and attitudes regarding recruitment of minority students are changing so rapidly, it was decided to send a short questionnaire to a sample of medical and dental schools to supplement the rather recent information about medical schools available from a report titled, Minority Student Opportunities in United States Medical Schools 1969-70 (AAUC, June 1969). Data about dental school recruitment policies were much less recent and explicit and were based in large part on articles published in various dental journals as well as on personal correspondence. (See Appendixes 3 and 4 for copies of questionnaire.)

Since admissions requirements to medical and dental schools are somewhat uniform and standardized, there were no criteria on which to choose the sample. We therefore used alphabetical listings of 106 medical and 51 dental schools in this country as the sampling frames, numbering the schools from 1 to 106 and 1 to 51, respectively. These lists appeared in catalogs describing admissions requirements published by the American Association of Medical Schools and the Association of American Dental Schools. Using a table of random

numbers, ten medical and ten dental schools were then chosen for the sample. A larger proportion of dental schools (ten out of fifty-one) than medical schools was chosen because, as mentioned above, our knowledge about dental school recruitment policies was much less complete than that for medical schools.

Although our sample seemed fairly representative of the different types of medical and dental schools, the medical sample lacked a school with large student enrollments and the dental school sample did not include a school with a predominantly black student enrollment as did the medical sample. Therefore, an eleventh medical school was added to the sample by listing the eight schools with student enrollments of six hundred or more on separate slips of paper and selecting one from a box in which they had been properly tossed around. The eleventh dental school was chosen by flipping a coin because there were only two schools with large black enrollment.

The medical school sample had the following characteristics: five were state supported, one was a private sectarian, and four were private nonsectarian schools; freshman class enrollment ranged from 32, in a newly established school, to 225; three schools were located in the Midwest, two in the far West, two in the South, and four in the East.

The dental school sample included seven state-supported schools, three private nonsectarian, and one private sectarian school; freshman class enrollments ranging from 41 to 136; and finally, four

schools which were located in the Midwest, two in the East, two in the far West, and three in the South.

The analysis of black studies programs and the discussion of their use as a possible source of students for medical and dental schools were based for the most part on data from two Center-conducted surveys. The first survey was carried out in May and June of 1969 by the authors who sent sixty letters of inquiry to various colleges and foundations known to be establishing or supporting black studies programs (Appendix 5). The responses to the letter were generally in the form of copies of proposals for black studies courses rather than the actual programs because most programs were still in a planning stage. The letter also included two questions about black studies as a preparation for professional school, and most of the responses indicated that these questions had not been considered at all. The data obtained from the first survey helped in the formulation of questions and choice of sample for the second study conducted in January and February of 1970 by Christensen, Ruyle, and Hurst. They sent letters to 320 colleges and universities requesting information on the name of each ethnic studies program, kind of organization, number of students in the program or courses, proposals and other written material, and course listings and descriptions for fall 1969 (Appendix 6).

Their sample was classified as "ranked" and "hearsay," ranked describing institutions with the greatest number of undergraduate

students of Negro, Oriental, Spanish-surname or American Indian minority background, while the hearsay sample was selected on the basis of lists of institutions earlier compiled by the authors as well as other sources that indicated institutions most likely to offer courses in ethnic studies.

The black studies programs and courses were compared to the admissions requirements of medical and dental schools, as described in the two models, to determine whether in fact black studies would be of help in preparing and motivating students for admission to a professional school.

The hypothesis presented in this study explores the possible relationship between black studies and preprofessional education. It cannot be verified at this time because black studies programs are a new and changing phenomenon on college campuses and few students have had the opportunity to study in them.

APPENDIX 1

Medical School Requirements

Medical schools in the United States are members of the Association of American Medical Colleges (AAMC). This association publishes each year a manual in which medical schools, following a standard format, describe their requirements for admissions. Each school also provides a brief statement about its program, aids to admission, and certain data descriptive of the previous year's entering class.

The analysis of admissions requirements presented here is based on a randomly selected sample of eleven medical schools described in the AAMC manual. These schools were also sent a short questionnaire. One of the selected medical schools is so new that its first class has not yet been admitted, and its requirements were not listed. A spot check of other schools revealed that the published requirements of all American medical schools are highly uniform and, therefore, the analysis of admissions requirements can be presumed to be generalizable to all American medical schools. The chapter on methodology offers a detailed description of how the sample was selected.

Although the majority of sample schools stated that only three years of undergraduate college were required for admission, in fact

most of the students admitted had had four years of college. Nine of the ten schools stated as a minimum requirement three years of undergraduate college; two did not specify the length of study. One of the nine schools gave the student an option of a four-year and a five-year medical curriculum; for the four-year program, the school required a bachelor's degree for admission. The ten schools that admitted a class for 1969-70 applied a more limiting standard than the above implies--a great preponderance of those admitted had had four years of college. This was true of 90 percent or more of the applicants in seven of the schools. In four of these institutions the percentage approached 100. Even in the three other schools, the percentages ran 71, 78, and 80. It appears, therefore, that medical schools place a high value upon a premedical education that includes four years of college.

Premedical Course Requirements

	Chemistry	Biology	Physics	Mathematics	English	Foreign Languages
Number of colleges stating a requirement	8	8	8	4	6	4
Semester hours required (most typical number)	16	8	8	6	6	6

Medical schools prescribe certain of the undergraduate program content required of the applicant, mainly in the sciences. Eight of the schools required courses in chemistry, biology, and physics,

and the remaining two sample schools recommend these courses. A foreign language was required by four schools and English by six schools. Another sample school recommended rather than required calculus and a foreign language (see table).

The recommendations for additional specific premedical courses were few. Two schools mentioned physical chemistry; one, familiarity with statistics; and two, electives in humanities and social sciences. One school listed certain topics under biology (ecology, embryology, genetics, and molecular biology), and these subjects may include courses beyond introductory biology. Two schools stressed the desirability of a broad background, and one "welcomes students from various fields." However, the extent of the support given to this idea was not revealed. The general tone of the discussion about the qualities desired in students suggested that breadth of culture was generally desired.

In view of authoritative opinions (Cope, 1968; Funkenstein, 1961) about the relevance to the practice of medicine of foundational work in the behavioral sciences, it is interesting that not one of the sample institutions required course work in this field. Only two mentioned it among the recommendations, although two other schools probably meant to include such courses within their recommendation of social sciences.

Specific course requirements generally totaled between thirty-two and fifty semester hours. Since three-year college programs

involve ninety hours of course work and four-year programs 120 hours, premedical students appear to have considerable leeway for selection of courses other than the required ones. They would still have had leeway for cultural courses if they transferred at the end of three years.

We do not have sufficient data to indicate whether the admissions officers and committees give preferences to applicants whose transcripts show strong majors in biological or physical sciences. If they do--and students think they do--these courses would crowd out most other electives. If they do not, it can be concluded that the specific admissions requirements do not preclude the premedical student from electing courses from a broad spectrum of subjects or from designing a total course of study for himself that is broadly cultural in objectives and content. In a more positive vein, three schools placed some emphasis upon this point in the following language:

> School 1: Students should obtain a broad liberal arts education including courses in the humanities and social and behavioral sciences.
>
> School 2: In general, the demonstration of competence in an area of study is a more important criterion than the particular discipline.
>
> School 3 (from prospectus materials for a new school): The socioeconomic, intellectual and interest patterns of entering students should be widened, and the admission of students from social sciences and humanities should be enlarged.

It may be significant that two of these statements were from schools that are new, and a third was from a two-year school of medicine.

Medical schools use the Medical College Admission Test (MCAT). Among the ten schools, nine stated that the test is required. At the other college, 97 percent of those admitted in 1969-70 had taken the test. According to the bulletin of the Association of American Medical Colleges, all schools require or recommend the test. It would appear from our sample that the exceptions to fulfilling all the stated requirements are very few. The discussions by the schools of the factors taken into account in admitting or rejecting applicants stressed intellectual ability. It is not clear how much weight is given by admissions officers or committees to the aptitude scores, but at the minimum they appear to be an important factor in screening the applications for those to whom serious consideration for admission will be given.

The ten sample medical schools stated that an interview with the applicant is required. All of them did interview all of the students admitted to the 1969-70 entering class.

Half of these schools stated that consideration is given to the references supplied by the student and especially to the report of the student's academic adviser. Since nine of the schools said they stressed scholastic record and nine of them (in two cases not the same nine) indicated that personality and character are appraised, it seems probable that all of the schools in fact give considerable weight to the recommendations received from the undergraduate college.

APPENDIX 2

Dental School Requirements

Dental schools in the United States are members of the American Association of Dental Schools. This association, in cooperation with the Council on Dental Education of the American Dental Association, publishes each year a booklet in which the admissions requirements of each school are stated. The format is substantially the same as the one used by the medical schools.

The analysis given below is based upon the descriptions in that booklet of eleven randomly selected schools in our sample. These schools were also sent a brief questionnaire paralleling the one sent to the medical schools, except for the omission of one item. A spot check of other schools listed in the booklet confirmed that the sample is representative of the whole group. (See the chapter on methodology for a detailed description of the sample selection procedure.)

Among the eleven sample schools, six required two years of predental education and five required three years. None required more than three years. However, like medical schools, the predental

education of the freshman class of 1969-70 departed considerably from the published requirement. An analysis of Appendix IV in the AADS booklet describing the level of predental education of all students enrolled in all dental schools in this country reveals that three of the six schools that asked for two years of college did not admit any students with fewer than three years, and in fact, the percentage of students admitted with four years of college was 90 percent or above. The other three schools requiring two years of predental education admitted, respectively, 11 percent, 15 percent, and 39 percent of their students with two years of undergraduate education. Only in the school that had admitted 39 percent, does the two-year threshold of admission have genuine meaning. It is also clear that students with a bachelor's degree have a superior chance of being admitted to dental school.

Among the five schools that stipulated three years of predental college, as a criterion for admission, the percentage of students who were admitted in 1969-70 with three years ranged between 15 and 37. In one school 3 percent of the class had had less than three years. In all but one of the schools, at least 75 percent had had four years of college.

The AADS booklet further reveals that of all undergraduates enrolled in 1968-69 in all schools in the United States, those with two years of college constituted 10.5 percent of the total; with three years, 25.3 percent; with four years but no degree, 6.8 percent;

with a bachelor's degree, 56.1 percent; and with a master's or other advanced degree, 1.3 percent.

The schools of dentistry prescribed a number of predental courses, mostly in the sciences and including English. All of the sample schools require chemistry, biology, physics, and English. Only one of the schools required mathematics.

Predental Course Requirements

	Chemistry	Biology	Physics	Mathematics	English
Number of colleges stating a requirement	11	11	11	1	11
Semester hours required (most typical number)	14	8	8		6

One school was a bit directive as to the content of the high school experience; one listed two subtopics--embryology or comparative anatomy--in biology; and only one required twelve semester hours in social sciences and humanities.

The dental schools also made some recommendations about predental study. Those relating to the sciences do not change the picture much: three stressed the advisability of taking comparative anatomy, and one suggested vertebrate morphology.

The recommendations for breadth of education resemble those of the medical schools. Eight of the schools listed the social sciences and the humanities. The phrases used by three schools were "broad general education," "cultural background," "broad background in human

relations and understanding." Two schools provided a list of subjects--eight in one case, and nine in the other--that roughly covers the span usual to liberal education. One school stipulated that the credits submitted must have been applied to the B.S. or the A.B. degree, which implies that a student who had studied in an area other than liberal arts, such as education, nursing education, or business administration, would not be admitted.

The behavioral sciences as a background for this profession were mentioned by only one school as a requirement and by only seven as a recommendation. All such statements are embedded in the very general term "social sciences." There is no specific guidance to the student, as there is in the biological sciences.

The dental schools use the Dental Aptitude Test. All eleven schools in our sample required the applicant to submit DAT scores. Among the applicants for the 1969-70 first-year class, 100 percent had taken the test. Seven of the colleges stated that the score received is an important factor in the selection of the students. It seems probable that the score is used by all of the schools in the initial screening of the applicants.

Only two schools mentioned the interview among the requirements. An additional school said it may be required. Eight said definitely that an interview is not required. In the two schools that required an interview, 100 percent of those admitted for the 1969-70 class were interviewed. At one school which stated that no interview is

required, 99 percent of those admitted had been interviewed. Three schools did not give the data, but the interview rate among those accepted for 1969-70 in five schools varied from 10 percent to 60 percent. Thus the picture about the interview policy is mixed.

Four schools placed emphasis upon the references supplied by the applicants, and three of these mentioned personality and character as influencing the choices in admission. Seven stated that the scholastic record is important. One school mentioned as important the accreditation of the undergraduate college.

APPENDIX 3

Questions Relating to the Admission of Black Students to Medical Schools

Name of School_____

Answered by_____ Date_____
Name and Title

1. Have you revised your criteria for admission as described in the 1969-70 manual on Medical School Admission Requirements published by the AAMC? Yes_____ No_____

   If Yes, in what respect?

2. Do you make any modifications of the criteria when considering black applicants? Yes_____ No_____

   If Yes, what criteria are being modified and in what way?

Name of School_____

3. Do you think that the modifications of criteria as described above will affect admission standards? Yes_____ No_____

If Yes, in what way?

4. For the first-year class, how many black applicants for each of the respective years:

	Applied	Were accepted	Actually enrolled
1969-70	_____	_____	_____
1968-69	_____	_____	_____
1967-68	_____	_____	_____

5. Have you revised your policy or special programs related to increasing minority student representation as described in the publication of the AAMC titled "Minority Student Opportunities in U.S. Medical Schools," 1969-70? Yes_____ No_____

If Yes, in what way?

6. Do you have special funds for the aid or support of economically disadvantaged black students? Yes_____ No_____

If Yes, how many black students can be supported by these funds each year?

Name of School_____

7. A number of colleges and universities have initiated Black (or Ethnic) Studies programs. Assuming that the science and other minimal requirements were met, do you think that a student who had "majored" in Black Studies would be admitted to your school?

   Yes_____ No_____ Undecided_____

   Comment:

Note: When completed, please return this questionnaire in the enclosed self-addressed envelope.

APPENDIX 4

Questions Relating to the Admission of Black Students to Dental Schools

Name of School_____

Answered by_____ Date_____
Name and Title

1. Have you revised your criteria for admissions as described in the 1970 manual on Admission Requirements of American Dental Schools published by the AADS? Yes_____ No_____

   If Yes, in what respects?

2. Do you make any modifications of the criteria when considering black applicants? Yes_____ No_____

   If Yes, what criteria are being modified and in what way?

Name of School_____

3. Do you think that the modifications of criteria as described above will affect admission standards? Yes_____ No_____

   If Yes, in what way?

4. For the first-year class, how many black applicants for each of the respective years:

	Applied	Were accepted	Actually enrolled
1969-70	_____	_____	_____
1968-69	_____	_____	_____
1967-68	_____	_____	_____

5. Do you have special funds for the aid or support of economically disadvantaged black students? Yes_____ No_____

   If Yes, how many black students can be supported by these funds each year?

6. A number of colleges and universities have initiated Black (or Ethnic) Studies programs. Assuming that the science and other minimal requirements were met, do you think that a student who

Name of School_____

has "majored" in Black Studies would be admitted to your school?

Yes_____ No_____ Undecided_____

Comment:

Note: When completed, please return this questionnaire in the enclosed self-addressed envelope.

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APPENDIX 5

Center Survey Letter on Ethnic Studies as Preparation for Professional School

May , 1969

Dear _____:

Because of our research relating to education for the professions, we may be helpful in interpreting the new programs of Black and other Ethnic Studies in relation to preparation for admission to professional schools.

For this purpose, we shall need to answer some questions such as the following:

To what extent will such programs--Black Studies, Afro-American Studies, Third World Studies, etc.--qualify students for admission to professional schools?

How may preprofessional education best be adjusted or coordinated with Black or Ethnic Studies' courses or majors?

As part of the procedure, we want to examine the format and content of the programs (including departments or schools) of Black or other Ethnic Studies. I would much appreciate it if you will send to me a copy of the program at your institution, proposed or adopted. If you have considered the questions above, will you please send me a copy of the report.

Thanking in advance, I am

Sincerely yours,

Algo D. Henderson
Research Educator

ADH:kk

100

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APPENDIX 6

Center Survey Letter on Ethnic Studies

December , 1969

Dear _____

In recent months at our Center increased attention has been given to the new students coming into higher education who appear to have a need for or an interest in new and experimental educational programs. The research interest is directed toward both the students and the programs.

Two research projects at the Center deal with ethnic studies programs. Dr. Algo Henderson is directing a project on black studies programs as they relate to education in professional schools. I am directing a project that is concerned with all types of ethnic studies programs in a variety of institutions. The purpose of my project is to describe the kinds of programs in existence and to attempt to identify some of the common variables, problems, and issues. The longer term objectives for this research are to augment the communication among those involved in developing new programs and to contribute to the improvement of programs. I would like to ask your help in providing us with a few pieces of basic information.

For each of the ethnic studies programs at your campus, we would like to know: (1) the name and official position of the administrator; (2) the type of organization of the program this fall (i.e., dept., school, center, random courses, etc.); (3) is a degree being offered in the program at this time?; and (4) approximately how many students are presently enrolled in the program?

If convenient, will you also please send copies of available proposals, course listings for this fall, and course descriptions of the programs.

We will be grateful for whatever help you can give us, and, if you like, we will send you copies of the reports coming out of this research.

Sincerely,

Paul R. Christensen
Research Psychologist

PRC:ve

REFERENCES

American Association of Dental Schools. Admission requirements of American dental schools: 1970-71. Chicago: AADS, 1969.

Applewhite, H. L. The vanishing Negro dentist. Quarterly of the National Dental Association, 1969, 27(3), 78-79.

Association of American Medical Colleges. Medical school admission requirements U.S.A. and Canada: 1969-70. Washington, D.C.: AAMC, 1969.

Association of American Medical Colleges. Minority student opportunities in United States medical schools, 1969-70. Washington, D.C.: AAMC, June 1969.

Association of American Medical Colleges. A fact sheet of data on the educational process leading to the M.D. degree as it relates to black Americans. Washington, D.C.: AAMC, February 4, 1970. (Mimeographed)

Bartlett, J. W. Medical school and career performances of medical students with low medical college admission test scores. The Journal of Medical Education, 1967, 42(3), 231-235.

Becker, H. S., Geer, B., Hughes, E. C., & Strauss, A. L. Boys in white, student culture in medical school. Chicago: University of Chicago Press, 1961.

Berkowitz, D. S. Inequality of opportunity in higher education. Legislative Document No. 33, 1948. Albany, New York: State Education Department.

Black, J. D. Stanford Blacks' High Achievement. San Francisco Chronicle. July 1, 1970.

Blassingame, J. W. Black studies: An intellectual crisis. The American Scholar, 1969, 38(4), 548-561.

Cleveland, B. Black studies and higher education. Phi Delta Kappan, 1969, 51(1), 44-46.

Coleman, J. S. et al. Equality of educational opportunity. U.S. Department of Health, Education and Welfare. Washington, D.C.: U.S. Government Printing Office, 1966.

Committee for National Health Insurance. Facts of life, health and health insurance. Washington, D.C.: CNHI, 1969.

Cope, O. Man, mind and medicine, the doctor's education. Philadelphia: Lippincott, 1968.

Crouchett, L. P. A development of black studies. Unpublished master's thesis, University of California, Berkeley, 1970.

Crowley, A. E., & Nicholson, H. C. The education of Negroes for medicine. Journal of the National Medical Association, 1969, 61(5), 375-381.

Douglass, C. W. Social sciences and the dental curriculum. Journal of Dental Education, 1969, 33(3), 322-330.

Elam, L. C. Meharry looks ahead. Journal of the National Medical Association, 1969, 69(1), 40-43.

Epps, E. G. Correlates of academic achievement among northern and southern urban Negro students. The Journal of Social Issues, 1969, 25(3), 55-70.

Fernández-Pabón, J. J. Prediction of success in dental school on the basis of dental aptitude test scores and other variables. The Journal of Dental Education, 1968, 32(3), 261-265.

Flexner, A. Medical education in the United States and Canada. A report to the Carnegie Commission for the Advancement of Teaching, Bulletin No. 4. New York: The Carnegie Foundation, 1910.

Fredericks, M. A., & Mundy, P. Dental students: Social class and academic performance. Journal of the American College of Dentists, 1968, 35(4), 349-356. (a)

Fredericks, M. A., & Mundy, P. Relations between social class, average grade in college, dental aptitude test scores, and academic achievement of dental students. The Journal of Dental Education, 1968, 32(1), 26-36. (b)

Funkenstein, D. H. Some contributions of the behavioral sciences to predmedical education. In A. E. Severinghaus, H. J. Carman, and W. E. Cadbury, Jr. (Eds.), Preparation for medical education: A restudy. New York: McGraw-Hill, 1961. Pp. 325-373.

Funkenstein, D. H. Current problems in the verbal and quantitative ability subtests of the medical college admission test. The Journal of Medical Education, 1965, 40(11), 1031-1047.

Gough, H. G., Hall, W. B., & Harris, R. E. Admissions procedures as forecasters of performance in medical training. The Journal of Medical Education, 1963, 38(12), 983-998.

Gurin, G., Lao, R., & Beattie, M. Internal-external control in the motivational dynamics of Negro youth. The Journal of Social Issues, 1969, 25(3), 29-53.

Hare, N. What should be the role of Afro-American education in the undergraduate curriculum? Liberal Education, 1969, 55(1), 42-50.

Haynes, M. A., & McGarvey, M. R. Physicians, hospitals and patients in the inner city. In J. C. Norman (Ed.), Medicine in the ghetto. New York: Appleton-Century-Crofts, 1969. Pp. 117-124.

Henderson, A. D. Better medical education can cost less. Educational Record, 1970, 51(3), 253-259.

Henry, J. L. Opportunities for the "Now" generation. The Quarterly of the National Dental Association, 1968, 26(4), 97-103.

Hollinshead, B. S. (Director) The survey of dentistry: Final report of the Commission on the Survey of Dentistry in the United States. Washington, D.C.: American Council on Education, 1961.

Jarecky, R. K. Medical school efforts to increase minority representation in medicine. The Journal of Medical Education, 1969, 44(10), 912-918.

Kilson, M. The intellectual validity of studying the black experience. In A. L. Robinson, et al. (Eds.), Black studies in the university. New Haven: Yale University Press, 1969. Pp. 13-16.

Lee, P. R. Equal opportunity--a reality for minority students in the health professions. Journal of the National Medical Association, 1969, 61(6), 461-465.

Lewis, A. W. The road to the top is through higher education - not black studies. The New York Times Magazine, May 11, 1969.

Melton, M. S. Health manpower and Negro health: The Negro physician. Journal of Medical Education, 1968, 43(7), 798-814.

Merton, R. K., Reader, G. G., & Kendall, P. L. The student-physician, introductory studies in the sociology of medical education. Cambridge: Harvard University Press, 1957.

Norman, J. C. (Ed.) Medicine in the ghetto. New York: Appleton-Century-Crofts, 1969.

Priwer, J. American medicine/A minority report. Saint Louis University Magazine, 1969, 42(3), 25-30.

Richmond, J. B. Currents in American medicine. Cambridge: Harvard University Press, 1969.

Roberts, S. V. Black studies aim - symbolic and real. New York Times, May 15, 1969 (quoting a statement of Martin Kilson).

Robinson, A. L., Foster, C. C., & Ogilvie, D. H. (Eds.) Black studies in the university. New Haven: Yale University Press, 1969.

Sanazaro, P. J., & Hutchins, E. G. The origin and rationale of the medical college admission test. The Journal of Medical Education, 1963, 38(12), 1044-1050.

Severinghaus, A. E., Carman, H. J., & Cadbury, W. E., Jr. Preparation for medical education in the liberal arts college. New York: McGraw-Hill, 1953.

Severinghaus, A. E., Carman, H. J., & Cadbury, W. E., Jr. Preparation for medical education: A restudy. New York: McGraw-Hill, 1961.

Shortages of money, faculty, time plague black studies programs. The Chronicle of Higher Education, May 4, 1970.

State of California. Laws relating to the practice of medicine and surgery, dispensing opticians, physical therapy and psychology. Sacramento: Department of Professional and Vocational Standards, 1968.

State of California. Dental practice act with rules and regulations. Sacramento: Department of Professional and Vocational Standards, 1969.

United Nations. Population and vital statistics reports series A, XXI (1 & 2). New York: UN, January 1, 1969 and April 1, 1969.

United States Bureau of the Census. U.S. Census of population, 1960. Washington, D.C.: U.S. Department of Commerce, Reference 12, Table 2, 1960, 9-10.

University of the State of New York. Medicine including osteopathy and physiotherapy. Handbook 9, Professional Education Series. Albany: The State Education Department, 1966. (a)

University of the State of New York. Dentistry including dental hygiene. Handbook 10, Professional Education Series. Albany: The State Education Department, 1966. (b)

Urban Research Corporation. Student protests 1969: Summary. Chicago: URC, 1970.

Vogl, A. J. Medical black power and the militant M.D.s. Medical Economics, March 31, 1969, 46(7), 108-135.

Washington, W. E. Problems and paradoxes of the urban crisis. Journal of the National Medical Association, 1969, 61(1), 1-5.

Wisdom, P., & Shaw, K. A. Black challenge to higher education. Educational Record, 1969, 50(4), 351-359.

World Health Organization. Vital statistics and causes of death. World Health Statistics Annual, 1967, I. Geneva: WHO, 1970.